

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A polymerizable composition for producing an optical member for 850 nm wavelength comprising:

- a polymerizable monomer composition,
- a polymerization initiator, and
- a compound, having a different refractive index from that of the polymerizable monomer composition, whose structure has a benzene ring substituted by a substituent having a Hammett value of not greater than -0.05 ~~0.04~~ or by plural substituents having an average value of Hammett values thereof of not greater than -0.05 ~~0.04~~.

2. (original): The polymerizable composition of claim 1, wherein the polymerizable monomer composition comprises at least one selected from the group consisting of esters of a propenoic acid and esters of derivatives thereof in a major proportion.

3.(original): The polymerizable composition of claim 2, wherein the polymerizable monomer composition comprises at least one selected from the group consisting of esters of a (meth)acrylic acid and esters of derivatives thereof in a major proportion.

4.(original): The polymerizable composition of claim 1, wherein the polymerizable monomer composition comprises at least one selected from the group consisting of compounds including a C-F bond.

5.(original): The polymerizable composition of claim 1, wherein the polymerizable monomer composition comprises at least one selected from the group consisting of compounds including a C-D (deuterium) bond.

6. (original): An optical member produced by polymerization of a composition of claim 1, so as to form a region having a graded refractive index.

7. (currently amended): An optical member for 850 nm wavelength

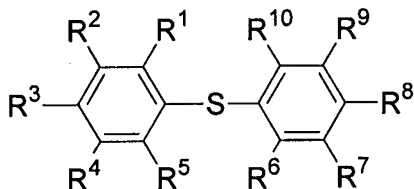
comprisingcomprises:

a polymer composition comprising at least one polymer selected from the group consisting of (meth)acrylates base polymers and

a compound having a different refractive index from that of the polymer composition wherein the compound has an absorption peak attributed to a fourth overtone of C-H bond stretching vibration in a benzene ring at not shorter than 875 nm; and the compound's structure has a benzene ring substituted by a substituent having a Hammett value of not greater than -0.05 or by plural substituents having an average value of Hammett values thereof of not greater than -0.05.

8.(original): The optical member of claim 7 wherein the compound is selected from the group consisting of:

Formula (1)



wherein R¹ to R¹⁰ respectively represent a hydrogen, an alkyl, an alkenyl, an alkyloxy, an alkenyloxy, or dialkylamino provided that at least four of them represent an alkyl, alkenyl, alkyloxy, alkenyloxy or dialkylamino.

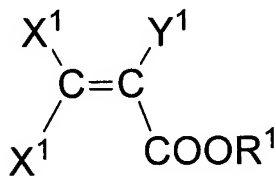
9. (original): The optical member of claim 7, which comprises a region having a graded refractive index.

10.(original): The optical member of claim 9, which comprises a region having a graded refractive index along the direction from the center to the outside.

11. (currently amended): A polymerizable composition for producing an optical member comprising:

a polymerizable monomer composition comprising at least one selected from the group consisting of:

Formula (2)



wherein X¹ is hydrogen (H) or deuterium (D) wherein two X¹ may be the same or different; Y¹ represents H, D, CH₃ or CD₃; and R¹ represents a C₇₋₂₀ alicyclic hydrocarbon group;

a polymerization initiator, and

a compound, having a different refractive index from that of the polymerizable monomer composition and having a solubility parameter of not greater than 10.9, whose structure has a benzene ring substituted by a substituent having a Hammett value of not greater than -0.050-04 or by groups having an average value of Hammett values thereof of not greater than -0.050-04.

12.(original): The polymerizable composition of claim 11 wherein the polymerizable monomer composition comprises an alicyclic hydrocarbon methyl methacrylate and methyl methacrylate in a major proportion.

13.(original): The polymerizable composition of claim 12 wherein the polymerizable monomer composition comprises at least one compound including a C-D bond.

14.(original): An optical member produced by polymerization of a composition of claim 11, so as to form a region having a graded refractive index.

15.(original): The optical member of claim 14 comprising a core region having a graded refractive index, which is produced by polymerization of a composition of claim 11 and a clad region cladding the core region.

16. (currently amended): The optical member of claim 15, wherein the core region has having a graded refractive index along the direction from the center to the outside.

17.(original): The optical member of claim 15, wherein the clad region is essentially formed of a polymerizable monomer composition comprising a same ingredient or same ingredients in a major portion as those of the core region.

18. (original): The optical member of claim 15 which is an optical fiber, a light guide or an optical lens.

19. (original): A process for producing an optical member comprising a step of polymerizing the polymerizable composition of claim 1.

20. (original): The process of claim 19, wherein, in said step of polymerizing, the polymerization temperature is 50 degrees Celsius or above.